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21 June 1960

MEMORANDUM FOR: C/TED

SUBJECT : Summary of R&D Programs with [redacted]
[redacted]

1. The following is a summary of the Research and Development programs for the past six years with the [redacted]

[redacted] These various programs and projects have often loosely and sometimes incorrectly in the past been collectively referred to as [redacted]. The performance of the contractor on all contracts listed has been excellent. The group has displayed initiative, imagination and keen appreciation of the intricate problems involved. In all cases, the contractor has delivered satisfactory operating equipment called for in the contracts.

2. [redacted] Mk I System

a. Initial contract dated 23 August 1954 for [redacted] for R&D on an [redacted] System. A breadboard model was delivered.

b. Contract for 6 prototypes [redacted] Mk I Systems dated 12 Oct. 1955 for [redacted]. Six satisfactory prototypes were delivered.

3. [redacted] Mk II System)

a. Initial contract dated 23 April 1956 for feasibility study of a two-way [redacted] System for [redacted]

b. Two amendments for prototype of [redacted] dated 12 September and 27 September 1956, total cost [redacted]. Satisfactory prototype was delivered.

4. Project [redacted]

[redacted] system. Contract dated 23 April 1956 for [redacted] factory prototype delivered.

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5. [redacted] Mk III System

a. Initial contract dated 6 March 1957 for [redacted] for R&D to increase range and effectiveness of [redacted] Systems. This resulted in a breadboard Mk III System.

b. R&D contract for six prototype [redacted] Mk III Systems dated 1 May 1958 for [redacted] Six satisfactory prototypes delivered.

c. Production contract [redacted] Program) for ten production models of [redacted] Mk III systems dated 29 September 1959 for [redacted] These are to be delivered about 1 July 1960.

6. [redacted] Mk IV System

a. Two step contract for a study on all phases of [redacted] Systems so as to get still greater range and flexibility, dated 16 October 1958 for [redacted] and 16 September 1959 for [redacted] Out of these contracts came:

(1) Improved prototypes of passive elements. Contract dated 16 September 1959 for [redacted] was let for production of thirty of these new passive elements. These have all been delivered.

(2) Three briefcase test sets for use when installing passive elements, delivered May 19, 1960.

(3) Breadboard of a Mk IV System employing a high power transmitter.

(4) There will be delivered by December 1960 six separate [redacted] receivers for special applications.

b. Based on breadboard of 6 (a) (3) contract was authorized on 11 June 1960 for [redacted] for three prototypes of Mk IV System. This will be the interim system for long range [redacted] operational applications. Plans are in process for a Mk V system that will be the production version of the Mk IV.

c. *Separate Receiver*

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7. [redacted] This is an application of the [redacted] principle [redacted].

a. Initial contract dated 1 September 1958 for [redacted] was for feasibility study.

b. Contract let 16 September 1959 for [redacted] called for three prototypes of [redacted]. The undersigned tested and approved the first prototype week of 2 May 1960 at the contractor's plant [redacted]. All three prototypes will be delivered about 15 Sept. 1960.

8. /

8. [redacted] MK V
- A. Advanced development of MKIV + MKIII systems. Incorporates high powered transmitter, It will have capability of using ~~more~~ than three P.F.'s in a target area, all of them operating in conjunction with the same base station transmitter.
- b. Contract let approximately 31 Sept 1960 for [redacted]

9. New Development Work Suggested - to commence May 1962
- A. Continuation of work on P.F. unit
- B. Development of high - gain antenna
- C. Study on Operational performance of Antenna in F.C. system
- D. Automatic spillover cancellation
- E. Superhetrodyne receiver
- F. Modification of F.C. - MKIII, MKIV and Signal Receiver
- G. Test Gear
- H. Alien F.C. signal monitor

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18 January 1962

Dear Bob:

Your letter was most welcome. Although I had planned, next week, to paraphrase the information you requested, I am leaping to take advantage of this opportunity to do this more fully.

I plan to remain in your city from Sunday morning, January 28th, to the evening of Thursday, 1 February. I am hoping to spend Monday, Tuesday and Wednesday at our seminar and then use Thursday to meet with some people that Gordon wrote to separately on research plans for next year. I am sure you will see his letter. He did the same thing to the people up North and down South. I will go there in that order after I leave you. You will be more specifically informed of these dates.

I would like to spend several hours with you on Sunday on the Agenda for our meeting. My interests will mostly concern themselves with the third day, although I think we have useful things to discuss about the rest of the meeting.

As far as quarters go, I very much appreciate your invitation. If Bill H. is in town, I think the general purpose of my trip would be better served by staying with him. I am sure you will understand what I am driving at. Otherwise, I accept your invitation with gratitude.

The only other thing you can do for me is most important and that is to be sure that some unpasteurized beer is on hand. Since Maggie is typing this up, I will leave the other requests for next Sunday.

Sincerely,